California Regional Water Quality Control Board
Santa Ana Region

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Secretary for Environmental Protection

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MCAS EL TORO
SSIC #5090.3

July 10, 2000

Mr. Dean Gould
BRAC Environmental Coordinator
MCAS EL Toro
P.O. Box 51718
Irvine, California 92619-1718

REVIEW OF DRAFT WORK PLAN FOR THE MPE PILOT STUDY, SITE 16, FORMER MARINE CORPS AIR STATION, EL TORO

Dear Mr. Gould:

We have completed our review of Draft Phase II Work Plan for the MPE Pilot Study, OU-3 IRP Site 16, Crash Crew Training Pit No. 2, dated June 2000, which we received on June 13, 2000. We have the following comments on this report:

2.1 SOIL AND GROUNDWATER CONDITIONS, fourth paragraph, Page 2-1: The former MCAS El Toro overlies the Irvine Forebay I Groundwater Subbasin.

3.2 WELL DRILLING, SOIL SAMPLING, AND LITHOLOGIC LOGGING, second paragraph, Page 3-1: Contamination in the soil extends from the ground surface into the water table, with the highest concentrations occurring in the zone from the ground surface to approximately 90 feet below ground surface (bgs). The proposed pilot study includes extraction of soil gas from only the deeper soils that are not as contaminated. As you know, the source of groundwater contamination at IRP Site 16 is above the zone that is being considered for study. If you proceed as proposed, the pilot study results will not be applicable for vapor treatment design purposes. We recommend the use of larger diameter boreholes, with separate wells screened in separate zones to include the entire soil column. Where possible, the screens should be positioned to specifically target the zones with the highest contaminant concentrations.

3.2 WELL DRILLING, SOIL SAMPLING, AND LITHOLOGIC LOGGING, third paragraph, Page 3-2: Monitoring wells and groundwater extraction wells have different functions and different design parameters. Therefore, we would not expect both well types to have the same design parameters for casing slot size (you propose 0.020 inch for both). We are concerned that you may expect to use the same filter pack for both types of wells, which would be an inappropriate approach.

For a groundwater extraction well of 6-inch diameter casing, we recommend a 14-inch boring, and a sand pack (filter pack) that will optimize the extraction capability. The selected filter pack material should have properties somewhere between that for a monitoring well (90% fines retention) and a municipal production well (winnows fines during development). An appropriate filter pack selection would allow for adequate extraction capability, and will likely result in the production of fine material in manageable amounts.

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For 6-inch diameter soil vapor extraction wells, we recommend a 14-inch diameter boring, 0.040-inch casing slots, No. 4 or No. 5 filter pack, and one screen interval per well.

4.2 MPE PILOT STUDY OBJECTIVES, Page 4-1 & 4-4: If the principle mass of soil contamination is located above the zone for which the test is proposed and the concentrations of contaminants within the zone being tested are orders of magnitude below the principle mass concentrations, then you will bias the pilot test results and will not be accurate in your assessment, and you will be unable to achieve several pilot test objectives.

4.4.1.1 VACUUM BLOWER, Page 4-11: You propose a blower that will yield 50 to 100 standard cubic feet per minute (SCFM) with wellhead of vacuum between 7 inches and 11 inches of mercury; however, we recommend a blower that will yield at each well 125 to 150 SCFM with a vacuum of 18 inches mercury at the well head.

For any questions on this review or related matters, please call me at (909) 782-4494.

Sincerely,

John Broderick
SLIC/DOD Section

cc: Mr. Glenn Kistner, U.S. Environmental Protection Agency, Region 9
Ms. Triss Chesney, Depart. of Toxic Substances Control, Office of Military Facilities
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